

# Assessment of Utilization of Internet Facilities Among Pre-Service Teachers in University of Ilorin, Nigeria

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## ABSTRACT

The use of the Internet can further equip teachers by providing them with the latest information on their discipline. The purpose of technology in teacher training is to provide pre-service teachers with the capability of integrating computer technologies into curriculum and instructional activities. This study therefore assessed the internet facilities among pre-service teachers in the University of Ilorin in Nigeria. The use of internet facilities based on gender was also examined. The instrument used was a questionnaire. All pre-service teachers in the Faculty of Education, University of Ilorin were the population for the study. Some 150 students in 400 level were randomly sampled (89 males, 61 females). Frequency counts and percentage were used to answer three research questions while the independent t-test statistic was used to test the hypothesis. The results show that: 80% of the respondents had a positive attitude toward the use of internet facilities, 62% agreed that males were more internet literate; and there was no significant difference between male and female in the use of internet facilities. Based on the findings, it was recommended that training should be emphasized for pre-service teachers, female pre-service teachers should be encouraged to be part of change and pre-service teachers should learn to balance their time.

**Keywords:** *Assessment, utilization, pre-service teachers and internet facilities*

## INTRODUCTION

TECHNOLOGY is the process of using scientific, material and human resources in order to meet human needs. Information and Communications Technology (ICT) is the use of information in order to meet human need or purpose including the use of contemporary devices such as the internet. Internet can be defined as a global network of computers that connects one or more people together to share vital information all over the world. To effectively fit in the global arena, organizations and institutions have the internet as a veritable tool (Kahn & Cerf, 1999). According to Onasanya, Shehu, Ogunlade and Adefuye (2010), some pre-service teachers who claim to be computer literates are unaware of the rules guiding the use of internet and this affects their online behavior. ICT is increasingly being accepted and integrated in the teaching, learning and research agenda in universities all over the world (Hites, 2005).

According to Hosseini and Kamal (2013), who investigated reasons for the deficiency in teachers knowledge, teaching technological skills that were out of context and separate in teacher education program were inadequate to learn the use of technology in the classroom. In spite of attempts by teacher education programs, the participants showed deficiency in knowledge of using technology for instruction purpose. This, they believed, was as a result of teaching technology in an isolated way in teacher education programs.

The purpose of technology in teacher training programs is to provide pre-service teachers capability of integrating computer technologies into the Curriculum and instructional activities in classrooms (Novick, 2003). This training will assist pre-service teachers in integrating ICTs more effectively into their teaching. They should also be persuaded to spend time using this technology so that it will be part of them. Internet is free for all and allows individual to access information online if only one has a system, media literacy and smooth flow of network service.

Recent studies have posited that there remains a gender imbalance, despite a significant growth in ICT sector in recent years (Chiu, Lin, & Tang, 2005). This gender imbalance has been partly blamed for both the shortage of qualified ICT professionals and the under representation of some segments of the population, mostly females (Trauth & Gowcorft, 2006). Previous studies have stated an urgent need to get women involved in the ICT use both as literate users and as professionals. This challenge applies to institutions and nations as well as to students and individuals (Gafen & Straub, 1997; Wang, Liu, & Jong, 2000).

Narinasamy and Mamat (2013) discovered that it is very paramount for relevant school authorities and organizations to support teachers in adopting ICT in their teaching. If this fails, then it will be an exercise in futility in trying to make ICT an important pedagogy.

### **Statement of the Problem**

Pre-service teachers who are well trained on ICT are competent and have a high degree of self-efficacy. They also make use of this knowledge in integrating ICT for instructional purposes. The permeation of the Internet technology and computers into classrooms has also created the opportunities for students to be active learners and allowed instructors to be facilitators (Anderson & Reed, 1998; CHEPS, 2000). The attitude of most pre-service teachers toward internet facilities usage is not encouraging because majority of the students find pleasure in visiting face book, yahoo, twitter, YouTube, and various dating sites. They also find time to watch pornographic pictures, play games, chat, watch movies, listen to music, and find friends online. Thus the need for this study.

Raman and Yamat (2014) noted that barriers such as how hesitant the teachers are, amount of workload, age and lack of skills could impede teachers from incorporating ICT in their teaching. Pre-service teachers in Nigeria need to be competent in the use of computer, its applications and internet services in order to promote effective teaching and learning. For teachers to continue developing their knowledge and skills in using emerging technologies for teaching, teacher training institutions could perhaps design and develop more relevant professional development courses for teachers. Pre-service teachers should not use the internet facilities for entertainment but for educational purposes. Badariah and Ahmad (2014) submitted that teachers were hindered in utilizing ICT by their self-handicapping thought, lack of support from the schools, teachers' negative attitude towards ICT utilization and their negative beliefs. All these could also hamper effective utilization of the internet facilities. Thus the need for this study.

### **Purpose of the Study**

The main purpose of this study was to assess the use of internet facilities by the pre-service teachers in University of Ilorin, Ilorin, Nigeria.

Specifically, the present study assessed;

1. Attitude of pre-service teachers toward utilization of internet
2. Competence of the pre-service teachers in the utilization of internet
3. Utilization of internet facilities by pre-service teachers based on gender

## Research Questions

This study is designed to answer the following research questions:

1. What is the attitude of pre-service teachers toward the utilization of internet facilities?
2. What is the level of competence of pre-service teachers in the utilization of internet?
3. Is there any difference in the utilization of internet facilities between male and female pre-service teachers?

## Hypothesis

One null hypothesis was generated based on the third research question

$H_{01}$  There is no significant difference between male and female pre-service teachers in the use of internet facilities

## Review of the Related Literature

Literature were reviewed based on the following headings:

### Meaning and Concept of Internet

The Internet or the World Wide Web can be described as a global network of computers. It is a kind of global meeting place where people from all parts of the world can interact. It is a service available on the computer, through which knowledge is now at the fingertips of anyone who has access to the internet. The use of the internet as an educational medium is now rapidly expanding (Liaw, 2004). Information can be collected through web servers on the internet. This means that billions of websites contain different information in the form of text and pictures. One can easily collect information on every topic of the world. For this purpose, special websites, called search engines are available on the internet to search information on any topic around the world.

Users can search for jobs online using the internet facilities; most of the organizations or departments around the world advertise their vacancies on the Internet. Also, internet facilities help to promote advertisement online. Nowadays, most of the commercial organizations advertise their products through internet. It is a very cheap and efficient way of advertising products. The internet also facilitates communication; one can communicate with the other through internet around the world. The internet provides services such as chatting, video conferencing, email, internet telephony and others. It serves as a virtual marketplace and social interaction platform. Along with getting information on the internet, one can also shop online. There are many online stores and sites that can be used to look for products as well as buying them using credit cards (Liaw, 2004).

Computer technologies have been viewed as important educational tools and will continue to enhance the learning process (Anderson & Reed, 1998). They help to foster students' interest, promote students' commitment to learning, arouses students' interest and promote distance learning.

Ogunlade and Olafare (2012) conducted a study on advantages of internet and intranet. Results revealed that the internet connectivity was a very strong means of creating extensive knowledge. Moreover, the majority agreed that there was a difference between the roles played by internet and intranet in knowledge creation. They therefore recommended that lecturers should be given more opportunity to use intranet for easy communication in the university. Undergraduates should also be given easy access to surf the internet anywhere on campus, the cost of which should have been added to their school fees on resumption.

### Gender Interaction in the utilization of internet facilities

Female students have less experience about the internet, but have higher level of confidence in programming and systems technology (Li, Kirkup, & Hodgson 2001). Many have regarded the internet as a technological "boy toy". The problems of gender disparity in the usage and attitude toward the internet have received considerable interest among researchers. Most findings have revealed that females are at a

disadvantage compared to their male counterparts where internet usage is concerned. They have unequal access, a low rate of usage and exhibit negative attitudes toward the Internet (Madell & Muncer, 2004).

Although, the internet has been characterized as male-dominated, recent evidence indicates that the gender gap in internet use is rapidly diminishing. If more females are using the internet, then there are specific applications they would prefer which would make them differ from those of their male counterparts (Novick (2003).

### **Disadvantages of Internet**

Users' personal information such as name, address and so on can be accessed by other people and this can lead such users to danger and exposure to internet fraudsters. If a credit card is used to shop online, hackers can steal information relating to such cards and eventually endanger the individual concerned.

Pornography and spamming are serious issues concerning the internet, especially when it comes to young children. There are thousands of pornographic sites on the internet that can be easily found and these can be detrimental to children. With unlimited access to a variety of websites and the impediment of needing to enter a brothel physically removed, immoral gratification is just the click of a mouse away from any intending customer (Sackson, 1996). Progress is observable in the fight against Internet pornography (except in a few cyber cafes) content filters are downloaded and installed to filter unwanted Internet content (Longe & Longe, 2005).

## **METHODOLOGY**

This section discusses the method used in conducting the research , research type, sample and sampling techniques, instrumentation, procedure for data collection and data analysis techniques.

### **Research type**

The study adopted the descriptive method of the survey type. Survey was chosen for this study because it enabled the researchers to collect large amount of information about the values and activities of the pre-service teachers on utilization of internet facilities.

### **Sample and sampling technique**

The population for the study was all pre-service teachers of faculty of education. Some 150 pre-service teachers at 400 level were purposively selected as the sample. Israel's (1992) model of sample size was employed to select the sample from a target population of 900 students in 400 level (+/\_7%).

### **Instrumentation**

The instrument used was a researcher-designed questionnaire, divided into two sections, A and B. All the researchers were involved in the design with relevant literature as guides. There are demographic questionnaire and the instrument questionnaire which were given to five professors and senior lecturers in the department of Educational Technology, University of Ilorin and two English Language experts for both the content and face validity. After the corrections were effected, 30 copies of the questionnaire were pilot tested on a sample outside the study area for reliability. Cronbach alpha was used to determine the reliability with .82 reliability coefficient. This implies that the instrument was reliable and was used for the study.

### **Procedure for Data Collection**

The instruments were administered personally by the researchers to the pre-service teachers. The pre-service teachers were allowed to respond to the questionnaire at their own pace. One hundred and fifty copies of the questionnaire were administered and collected immediately to avoid misplacement by the respondents.

### **Data analysis Techniques**

The research questions were answered using frequency counts and percentages while the hypothesis was tested using independent *t*-test statistic.

## DATA ANALYSIS AND RESULTS

This section presents the analysis and interpretation of data obtained during the course of this study. Data obtained in respect of research questions were analysed using percentage. The demographic information of the participants is given in Table 1.

**Table 1: Demographic Information of Respondents**

GENDER	FREQUENCY	PERCENTAGE %
Male	89	59.3
Female	61	40.7
<b>Total</b>	<b>150</b>	<b>100</b>

Table 1 indicates that male respondents were 89 in number representing 59.3% of the total sample while female respondents numbered 61 representing 40.7% of the total sample. This shows that all the departments in the faculty of education were fairly represented. The distribution of respondents by departments shows that all the five departments had 30 respondents each, representing 20% each of the total sample since 150 respondents were involved which made up 100% of the total sample.

### Research Questions

The following research questions were answered as indicated;

**Research question one:** What is the attitude of pre-service teachers towards the use of internet facilities?

Table 2 summarizes the attitude of respondents toward using internet facilities.

**Table 2: Attitude of respondents towards the use of Internet facilities**

S/N	ITEMS	SA(%)	A(%)	D(%)	SD(%)
1	Internet enhances students' learning	108(72)	42(28)	-	-
2	Internet creates more information between teachers and students	80(53.3)	61(40.7)	8(5.3)	1(0.7)
3	I learn more from internet than I do from textbooks	60(40)	62(41.3)	25(16.7)	3(2)
4	I always use internet to solve my assignment	67(44.7)	71(47.3)	11(7.3)	1(0.7)
5	I find the use of internet interesting	87(58)	61(40.7)	1(0.7)	1(0.7)
6	Internet gives opportunity to learn more	93(62)	51(34)	6(4)	-
7	I taught myself on how to use internet	54(36)	75(50)	18(12)	3(2)
8	I can do deep web searching using appropriate search engine	56(37.3)	77(51.3)	13(8.7)	4(2.7)
9	I can download files from the internet	81(54)	53(35.3)	14(9.3)	2(1.3)
10	I spend more time on the internet than I do studying my books	12(8)	25(16.7)	72(48)	41(27.3)
11	I consider the use of internet as wasting of resources	12(8)	9(6)	49(32.7)	80(53.3)
12	I browse pornographic sites on the internet	9(6)	13(8.7)	45(30)	83(55.3)
13	I engage in internet fraud	6(4)	6(4)	36(24)	102(68)
14	I spend most of my time chatting on the internet	18(12)	32(21.3)	83(55.3)	17(11.3)
	I use internet for social sites like facebook, twitter,				
15	yahoo messenger etc. more than I use it for my assignment	64(42.7)	63(42)	22(14.7)	1(0.7)
16	I attended ICT training before I can use the internet properly	9(6)	23(15.3)	73(48.7)	45(30)
17	I have a certificate in ICT training	25(16.7)	32(21.3)	52(34.7)	41(27.3)
18	I am conversant with the rules of internet	32(21.3)	82(54.7)	27(18)	9(6)

Based on the results in Table 2, there is every indication that responses to the positive statement (item 1-9) shows that over 80% of respondents had a positive attitude toward the use of internet facilities. It is seen that more respondents believed that internet facilities could generally provide better learning experience.

However, the negative statement (item 10-15) shows that 24.7% of the respondents agreed or strongly agreed that they spent more time on the internet than they did when studying their books while 75.3% disagreed or strongly disagreed. Item 11 shows that 14% of the respondents agreed or strongly agreed that they considered the use of internet as wasting of resources while a majority of the respondents (86%) disagreed or strongly disagreed on that statement. Item 12 shows that 14.7% of the respondents agreed or strongly agreed that they surfed pornographic sites on the internet while 85.3% of the respondents disagreed or strongly disagreed. Item 13 shows that 8% of respondents agreed or strongly agreed that they engaged in internet fraud while a majority of respondents representing 92% disagreed or strongly disagreed. Item 14 shows that 33.3% of the respondents agreed or strongly agreed that they spent most of their time chatting on the internet while 66.7% of respondents disagreed or strongly disagreed. Item 15 showed that 84.7% of the respondents agreed or strongly agreed that they used the internet for social sites like Facebook, twitter, yahoo messenger and others more than they used it for their assignments while 15.3% disagreed or strongly disagreed.

Item 16 shows that 21.3% of the respondents agreed or strongly agreed that they attended ICT training before they could use the internet properly while 78.7% of respondents disagreed or strongly disagreed. This implies that a majority of pre-service teachers did not attend ICT training before they could use the internet. Item 17 shows that 38% of the respondents agreed or strongly agreed that they had a certificate in ICT Training while 62% of the respondents disagreed or strongly disagreed. This means that a majority of pre-service teachers did not have a certificate on ICT training. Finally, item 18 showed that 76% of respondents agreed or strongly agreed that they are conversant with the rules of internet while a few respondents, representing 24%, disagreed or strongly disagreed with that statement. This shows that a majority of pre-service teachers are conversant with the rules of internet.

**Research Question two:** What is the level of competence of pre-service teachers in the use of internet? The analysis related to this question is shown in Table 3.

**Table 3: Competence of respondents in the use of Internet Facility**

S/N	ITEMS	Often	Seldom	Not at all
1	I use application programs like Microsoft Word, Excel, PowerPoint etc.	76(50.7)	60(40)	14(9.3)
2	I create basic presentation package.	34(22.7)	74(49.3)	42(28)
3	I introduce animation into slides.	40(26.7)	63(42)	47(31.3)
4	I assess internet site via its web Addresses	94(62.7)	48(32)	8(5.3)
5	I download files from the internet.	114(76)	30(20)	6(4)
6	I send and receive email messages.	99(66)	42(28)	9(6)
7	I use web authoring tools.	53(35.3)	75(50)	22(14.7)
8	I use the webcam to communicate via chat on the internet.	42(28)	61(40.7)	47(31.3)
9	I can use programs like HTML, PHP, C++, etc.	30(20)	60(40)	60(40)
10	I can use search engines like Google, Mamma, Amazon, devil finder, ask.com, MSN etc. effectively	105(70)	35(23.3)	10(6.7)

Item 1 shows that 50.7% of respondents often used application programs like Microsoft Word, Excel, PowerPoint and so forth. Some 40% of respondents seldom used such application programs while 9.3% did not use them at all. This implies that majority of pre-service teachers used such application programs. Item 2 shows that 22.7% of respondents often created basic presentation package. A larger population (49.3%) of the respondents did not create presentation package. This result shows that most pre-service teachers hardly or have never created a basic presentation package. Item 3 shows that 26.7% of the respondents often introduced animation into slides, 42% of respondents seldom introduced animation into slide while 31.3%

did not introduce animation into slides. Item 4 showed that 62.7% of the respondents often accessed internet sites via web addresses, 32% of the respondents seldom accessed while 5.3% of the respondents did not. This indicates that most pre-service teachers used web address to access the internet. Item 5 showed that 76% of the respondents often downloaded files from the internet, 20% seldom did such while 4% did not. This indicates that most pre-service teachers often downloaded files from the internet. Item 6 showed that 66% of the respondents often sent and received email messages, 28% of the respondents hardly sent and received while 6% did not. Item 7 showed that 35.3% of the respondents often used web authoring tools, 50% seldom used them while 14.7% did not. This indicates that in general pre-service teachers seldom used web authoring tools. Item 8 showed that 28% of the respondents often used the webcam to communicate via chat on the internet, 40.7% seldom used such while the remaining 31.3% did not. Item 9 revealed that 20% of the respondents often used programs like HTML, PHP, C++ and so forth, while 40% seldom and 40% never used these at all.

Finally, item 10 showed that 70% of the respondents often used search engines like Google, mamma, Amazon, devil finder, ask.com, msn and so forth effectively. Some 23.3% of the respondents seldom used search engines effectively while 6.7% of the respondents did not. This result shows that majority of pre-service teachers could use search engines effectively.

**Research Question three:** Is there any difference in the use of internet facilities between male and female pre-service teachers?

The analysis related to this question is as shown in Table 4.

**Table 4: Utilization of Internet Facilities by Pre-Service Teachers Based on Gender**

S/N	ITEMS	SA(%)	A(%)	D(%)	SD(%)
1	A larger population of male is internet literate than female	42(28)	51(34)	41(27.3)	16(10.7)
2	I think males are more advanced in the use of internet than females.	38(25.3)	42(28)	46(30.7)	24(16)

The distribution of respondents by gender difference revealed that 93 respondents representing 62% of the total sample agreed or strongly agreed that a larger population of male was internet literate than females while 57 respondents representing 38% of the total sample disagreed or strongly disagreed. This result implies that males were more educated in the use of internet than females. Item 2 also revealed that 80 respondents representing 53.3% of the total sample agreed or strongly agreed that males were more advanced in the use of internet than females while 70 respondents representing 46.7% disagreed or strongly disagreed. Based on this result, males were more conversant and advanced in the use of internet facilities than females. So, it could be concluded that there was a difference between male and female pre-service teachers' capability in the use of internet facilities.

### Hypotheses Testing

$H_0$  There is no significant difference between male and female pre-service teachers in the use of internet facilities

Table 5 Utilization of Internet Facilities by Pre-Service Teachers Based on Gender

Gender	No	$\bar{X}$	SD	df	t	Sig. (2-tailed)
Male	89	50.17	5.42	150	1.47	.13
Female	61	48.79	5.89			
Total	150					

From Table 5, it can be deduced that there was no significant difference between male and female pre-service teachers in the use of internet facilities. This is reflected in the result: df (150),  $t = 1.47$ ,  $p > .05$ . That is, the result of  $t$ -value of 1.47 resulting in .13 significance value was greater than the .05 alpha value. Thus, the hypothesis was accepted. This implies that there was no significant difference between male and

female pre-service teachers in the use of internet facilities.

## DISCUSSION

The majority of pre-service teachers did not have a certificate in ICT training although they were conversant with the rules of the internet while majority of them could use search engines effectively. More respondents believed that internet facilities could generally provide better learning experience. Science pre-service teachers were more experienced in the utilization of the internet. This is at variance with the finding of Badariah and Ahmad (2014) that science teachers surveyed in Malaysia were familiar with ICT, but not in innovative ways that could help the classroom as expected.

Males were more conversant and advanced in using internet facilities than females. So, it could be concluded that there was a difference between male and female pre-service teachers' capability in the use of internet facilities though the difference was not statistically significant. This disagrees with Bastani (2008) who reported a difference in the way males and females used the internet.

## CONCLUSION

The following conclusions were drawn from the study based on the findings:

Pre-service teachers considered the use of internet essential to life. Most of them could not do without being connected to the internet for social reasons while others used it for assignment purposes or gaining more knowledge.

Pre-service teachers neglected having a certificate in ICT. They felt it was not essential or not needed. Some were of the opinion that they did not need a certificate before they could access the internet properly thereby placing little or no importance on certificates.

It is sad to note that some pre-service teachers still considered the use of internet as a waste of time and resources in this era and age of advanced technology. Most pre-service teachers had frequent access to the internet which has greatly improved their competence in using it.

Pre-service teachers from science education were often more competent in the use of internet facilities than other departments in the Faculty of Education. The study has strong implications on the way teaching and learning process is being handled through the way pre-service teachers used the internet. It indicates that there would be positive result if the internet is used in a better way.

## RECOMMENDATIONS

The following recommendations were made on the basis of the findings:

Pre-service teachers should learn to balance their time when it comes to surfing the internet for social sites and reading their books since a large number tend to spend most of their time chatting away instead of focusing on academic tasks.

Institutions should make ICT a core course for pre-service teachers so as to produce more ICT-competent teachers.

Issuance of certificate on ICT competence should be taken as a priority. This will serve as a back-up for the degree certificate of pre-service teachers. Female pre-service teachers should erase their present notion that the internet is male dominated. It is not logical to just assume that males are more advanced in the use of internet than females.

The idea that internet is a waste of resources should be dropped because knowledge is power; the internet is an advanced way of acquiring knowledge and digging further for more.

Government or institutions should provide suitable ICT training environments and equipment for

better learning. The environment is an important factor because it helps individuals to realize their potential.

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